C2

The irrigation system 14 may further have an accumulator 34 coupled to the irrigation line 30. The accumulat r 34 may be coupled to a controller 36. The controller 36 may also be coupled to the pump 28. The contr ller 36 may include a microprocessor, memory, etc. that can receive input signals, process the signals in accordance with a software routine(s) and provide output signals.

Please replace the paragraph beginning at page 7, line 17 with the following paragraph:

C3

The accumulator 34 may include a flexible membrane 38 that separates a first chamber 40 from a second chamber 42. The first chamber 40 is in fluid communication with the irrigation line 30. The second chamber 42 is in fluid communication with a pressure transducer 44 of the controller 36.

Please replace the paragraph beginning at page 8, line 3 with the following paragraph:

C4

The accumulator 34 provides multiple functions. The first chamber 40 provides a reservoir of pressurized fluid for the system and functions as a fluidic capacitor that can maintain the intraocular pressure of the eye. The flexible membrane 38 and first chamber 40 can also filter pressure pulsations created by the pump 28. Additionally, the flexible membrane 38 provides a non-invasive means for sensing the pressure within the irrigation line 30. The system may include an accumulator (not shown) that provides additional capacitance for the second chamber 42. The additional accumulator may reduce the sensitivity of the pressure sensor 34 and allow greater volume of irrigation fluid to be stored in the first chamber 40.

Please replace the paragraph beginning at page 9, line 12 with the following paragraph:

C5

By way of example, if the valve 46 is open and the actual pressure is greater than the desired range, the controller 36 can decrease the speed of the pump 28 to reduce the irrigation pressure. Likewise, if the actual pressure is less than the desired range the

C5

controller 36 can increase the speed of the pump 28. If the valve 46 is closed the irrigation pressure can be decreased by reversing the direction of the pump 28 to pump fluid out of the accumulator 34. The controller 36, accumulat r 34 and pump 28 can thus be used as a closed loop feedback system to control the intraocular pressure of an eye during a surgical procedure.

Please replace the paragraph beginning at page 12, line 8 with the following paragraph:

C6

The threshold resistance value(s) can be normalized with the actual resistance of the system by either calculating the system resistance, or measuring the resistance when the system is set up and the device is inserted into a test chamber . The system resistance can be calculated by allowing irrigation fluid to flow through the irrigation line, test chamber and aspiration line, and then determining the resistance by dividing the sensed differential pressure by the measured flowrate. The flowrate can be determined from the speed of the pump 28. The differential pressure can be determined from the pressures sensed by sensor] 27 and accumulator 34.

IN THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims excludes cancelled claim 47 and includes amended claims 1, 13, 17, 35, 37, 41, 43, and 48.

C7

1. ~~(Thrice Amended)~~ An irrigation system for a medical device, comprising:

an irrigation reservoir;

an irrigation line coupled to said irrigation reservoir;

a pump coupled to said irrigation line;

an accumulator including a first chamber in fluid communication with said irrigation line, a sec nd chamber, and a flexible membrane that separates said first chamber from said